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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,986	10/04/2005	Mitsuru Kitamura	A-501	3344
802	7590	08/17/2007		
PATENTTM.US			EXAMINER	
P. O. BOX 82788			LAVARIAS, ARNEL C	
PORTLAND, OR 97282-0788			ART UNIT	PAPER NUMBER
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			08/17/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

TH

<b>Office Action Summary</b>	Application No. 10/551,986	Applicant(s) KITAMURA, MITSURU	
	Examiner Arnel C. Lavarias	Art Unit 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-8 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Election/Restrictions*

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, Claim(s) 1-2, drawn to a computer-generated hologram, wherein a virtual point light source group is set up spatially on a side opposite to the observation side of the hologram, luminance angular distribution  $A_{WLci}(\theta_{xz}, \theta_{yz})$  of divergent light diverged from each of the virtual point light sources of said virtual point light source group toward observation side is divided by angular division, and within the divided angle, among the multiple images positioned on the plane of said virtual point light source group, a divergent light to be equal to the divergent light diverged from a point of amplitude equal to the density of pixel of the image corresponding to each of divided angle at the position of the virtual point light source or equal to a value in a certain fixed relation with the density of the images is recorded as the object light at one of the positions on the observation side of the virtual point light source group.

Group II, Claim(s) 3-4, drawn to a computer-generated hologram, wherein when a predetermined illuminating light enters, a diffracted light is reconstructed, which is diverged toward observation side from each of the points of spatial virtual point group on a side opposite to observation side of the hologram, luminance angular distribution of the light is divided by angular division depending on the direction of diffraction angle so that the light is diverged from each virtual point toward the observation side of the hologram, and the diffracted light is equal to the divergent light diverging from a point with an amplitude equal to the density of pixel of the image corresponding to each divided angle or equal to a value in a certain fixed relation with the density at the position of the virtual point of the recorded images among the separate recorded images positioned on the plane of said virtual point group within the divided angle.

Group III, Claim(s) 5-6, drawn to a computer-generated hologram, wherein a virtual light converging point group is spatially set up on observation side of the hologram, luminance angular distribution  $T_{WLci}(\theta_{xz}, \theta_{yz})$  of converged light entering from the side opposite to the observation side to each of the virtual light converging points of said virtual light

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converging point group is divided by angular division, and within the divided angle, among the multiple images positioned on the plane of said virtual light converging point group, these converging lights are converged to a point of amplitude equal to the density of pixel of the image corresponding to each of the divided angle or equal to a value in a certain fixed relation with the density of the images, and these converging lights are recorded as the object light at one of the positions on a side opposite to the observation side of the virtual light converging point group.

Group IV, Claim(s) 7-8, drawn to a computer-generated hologram, wherein when a predetermined illuminating light enters, a diffracted light is reconstructed, which is diverged at observation side through each point of spatial virtual point group on the observation side of the hologram, luminance angular distribution of the light converged to each virtual point is divided by angular division depending on the direction of diffraction angle, and among the separate recorded images positioned on the plane of said virtual point group within each of the divided angles, these converging lights are the diffracted lights converged to a position of amplitude equal to the density of pixel of the image corresponding to each divided angle or equal to a value in a certain fixed relation with the density at the position of virtual point of the recorded images, and the converging lights are reconstructed in this manner.

2. The inventions listed as Groups I, II, III, and IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:  
For each of Groups I-IV above, each of the listed groups has special technical features not required for the other listed groups. The special technical features exclusive to each group are listed above in the listing of the groups.
3. A telephone call was made to James H. Walters (503-224-0115) on 8/13/07 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not

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distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

#### *Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Arnel C. Lavarias  
Primary Examiner  
Group Art Unit 2872  
8/13/07

  
ARNEL LAVARIAS  
PRIMARY PATENT EXAMINER